

Model of Independence Mother in Caring for Preterm Infant based on Experiential Learning Care (ELC)

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ABSTRACT

The role of parents has done less during the preterm infant care in hospitals caused dependence in caring for the baby. The objective of the research was to development a model of independence of the mother in the care of preterm infants with experiential learning approach based theory of goal attainment. Research's design used analytic correlational in stage 1 and stage 2 used quasi experimental. The population used all mothers with preterm infants treated in perinatal dr. Wahidin Sudiro Husodo Mojokerto and Prof. Dr Soekandar Mojokerto Hospital with sample size was 28 samples respectively in the treatment group and the control group. Variables used knowledge, decision, action, interaction, experiential learning, and mother independence. The instrumen used questionnaire and checklist. The sample was selected by consecutive sampling method. In the treatment group was given ELC module and the control group was given treatment by leaflets. Technical data analysts used Partial Linear Square (PLS) and independent t-test. New finding of research is interaction with the approach of Experiential Learning Care (ELC) through methods role play a stronger in improving the independence than interaction direct to independence.

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1. INTRODUCTION

Preterm birth was the leading cause of death in newborns. Babies who died of preterm accounted for 36.5% of infant deaths in 2005[1]. In Indonesia the Infant Mortality Rate (IMR) was still high. Result of Indonesia Demography and Health Survey (IDHS) in 2012, IMR was 32/1000 live births. In Indonesia, the causes of perinatal mortality was 0-7 days due to preterm in the amount of 32.3% was ranked second after respiratory disorder, while the perinatal 7-28 days as much as 12.8% [2].

Preliminary studies conducted by researchers at the Regional General Hospital (Hospital) Dr. Wahidin Sudiro Husodo Mojokerto showed the incidence of preterm birth was high. Data obtained from medical records from 2009 to 2013 showed the incidence of preterm birth was still above 12%. During hospitalization, the participation of mothers of preterm infants in the care of infants was still limited to breastfeed and holds the baby. The role of poor parents during preterm infant care in hospitals would cause independency in caring for the baby after discharge from the hospital [3].

Baby care in the NICU was a source of stress for parents. Stress includes concern for the survival of infants and the potential effect on his development [4]. Parents tend to see themselves as secondary caregivers for babies, whereas the nurse in the NICU was seen as the primary caregivers [5]. Experience the

stress of parents of preterm infants can delay the achievement of the role of parents [6] and may have long term effects on parent-infant interaction and child development [7].

The important task of nurses is to design and assess interventions that focus on the mother and baby, including stress and parental competence [6]. During this intervention has done a nurse, is less successful in increasing the independence of mothers in the care of preterm infants. Researchers are interested in increasing the independence of mothers caring for preterm infants with optimal engagement in hospital care. One cornerstone of thinking and help deliver the baby preterm mothers prepare to be able to care for her baby with optimum is to use the King's nursing model.

King's theory is based on the achievement of objectives and a precise when applied to interactions between mothers of preterm infants with a nurse. Many research and studies that support the theory King centered on the technical aspects of client care and nursing care systems. This theory is quite adequate, logical and sequential occurrence of a nursing. The concept put forward is quite clear and simple (Fawcett, 2006) [8]. However, according to investigators still was abstract theory on transactional stage between the nurse and the client so it can not immediately be applied in concrete. King does not explain the causal relationship between knowledge, decisions, actions and reactions that seem to stand on its own four that are not interrelated. Researchers found King's theory would be appropriate if it is integrated with the Experiential Learning. Experiential Learning methods required as the operational form of transaction between nurses and parents of preterm infants.

Doni (2009) showed the success of 78% of students used learning experiential [9]. Experiential learning methods to accommodate the social situation, creativity and intellectual mother so as to provide insight into the knowledge of the needs and care of preterm infants and provide a real experience that will build skills or preterm infant care practices. Increasing the independence of mothers in taking care of the preterm infant would help lower the infant mortality rate (IMR). Nursing care through Experiential learning approach with Model-based Theory of Goal Attainment use the experience as a catalyst can help mothers in developing the capacity and ability to care for preterm babies through learning by doing.

The purpose of this study is to construct a model of independence mother in caring for preterm infants through experiential approach Learning Care (ELC) based Theory of Goal Attainment.

2. RESEARCH METHOD

This research was an analytical study conducted correlational includes 2 stages. The first stage used a design explanation. Explanation design with the aim to develop a model of independence mother in caring for preterm infants with an approach based Experiential Learning Theory of goal attainment. The approach used is cross sectional. This study examined the effects of maternal interaction between perceptions with preterm infants; mothers influence decisions in treating preterm infants against interaction, the effect of actions by the interaction. Analysis of the relationship was also conducted on the effect of interaction with the Experiential Learning and analyzes the influence of Experiential Learning with the independence of the mother in the care of preterm infants.

The second stage used quasi-experimental. The research objective in the second stage was to stage the simulation models. This study aimed to test the effectiveness of the application of the model-based approach to experiential learning theory of goal attainment in order to increase the independence of the mother in the care of preterm infants. Quasi-experimental research carried out with pretest and post-test before treatment after treatment was given. There was a quasi-experimental research experimental group and the control group, but the determination is not performed random sample. The populations in this research were all mothers who have preterm infants treated in perinatal dr. Wahidin Sudiro Husodo Mojokerto and hospitals Prof. dr. Soekandar Mojosari Mojokerto. The sample size in the treatment group and the control was 28 samples. Sampling technique used consecutive sampling. The instrument used in this study was a questionnaire, medical records and observation sheet or checklist. Exogenous variables, namely knowledge, decision, action was measured using a questionnaire. Other exogenous variables measured the interaction with the checklist. Meanwhile, to measure variables experiential learning used observation sheet (check list) based SOP preterm infant care. Endogenous variables namely the independence of mothers in caring for preterm infants was measured used observation sheet (check list). The validity of the test by looking at the value of convergent validity valid if it has a value of > 0.5 . If the composite reliability reliability test showed satisfactory value if > 0.6 . Research conducted at room perinatal dr. Wahidin Sudiro Husodo Mojokerto here in after referred to Hospital A and Hospital Prof. dr. Soekandar Mojosari Mojokerto hereinafter referred to Hospital B. The research was divided according the research phase, namely:

1. Phase 1 starts on August 2 until October 10th 2014
2. Phase 2 begins after the recommendation of the FGD was held on October 17th 2014. Phase 2 was conducted from November 2th to December 12th 2014.

Descriptive analysis techniques are to obtain a description of the characteristics of survey respondents from several aspects, including the mother's age, education, marriage age, marital status, age, pregnancy and the baby's weight. Descriptive analysis was also performed on variables knowledge, decision, action and reaction, interaction and independence of the mother in the care of preterm infants. Descriptive analysis was conducted by analysis of the frequency distribution of the measured variable. Subsequent analysis technique used in this study is the Partial Least Square (PLS). PLS is an alternative approach that shifts from the approach of Structural Equation Modeling (SEM) based covariance based variant. PLS are more predictive models. In modeling the prediction purposes, PLS has consequences that testing can be done without a strong theoretical basis, ignoring some of the assumptions and parameters accuracy of predictive models, seen from the coefficient of determination. Analysis of the data in the second stage was a statistical test of independent t-test with a level of confidence (α) of 0.05.

3. RESULTS AND ANALYSIS

A general description shows the characteristics of respondents as Table 1. Table 1 shows that the majority of the year most respondents aged between 20-35 years is 36 respondents and educated past high school as many as 49 respondents. All respondents had a marital status and long marriage married respondents are mostly 2-5 years as many as 44 respondents. While the data of respondents giving birth preterm infants with a gestational age of 34 weeks most of as many as 15 respondents and the majority of respondents gave birth weight preterm infants born between 2301-2400 grams as many as 23 respondents.

Table 1. Characteristics of Respondents

No	Characteristics	Indicator	Frequency	
			Σ	%
1	Age	< 20 years	15	27
		20-35 years	36	64
		> 35 years	5	9
2	Education	Elementary	1	2
		High School	6	11
		Senior high School	49	87
3	Status Married	Married	56	100
4	Long Married	\leq 1 year	1	2
		1-5 year	44	78
		> 5 year	11	20
5	Old Pregnancy	32 week	11	20
		33 week	12	21
		34 week	15	27
		35 week	6	10
		36 week	11	20
		37 week	1	2
6	Weight	2000-2100 gram	8	14
		2101-2200 gram	10	18
		2201-2300 gram	7	11
		2301-2400 gram	23	41
		2401-2499 gram	8	14

Results of phase 1 with PLS analysis is to evaluate the structural equation model. PLS models more fully are as follows:

Illustrates the value is R-Square goodness-of-fit of the model. R-Square value recommended is greater than zero. Results of this study data processing using SmartPLS give R-square values as shown in Table 2. Table 2 shows the model of interaction and independence through Experiential Learning Care (ELC) is fit (R-Square = 0.544) greater than lenih interaction and independence (R-Square = 0.202).

Table 2. *Goodness of Fit* from *R-Square*

Variable	R-Square
Knowledge, Judgement, Action \rightarrow Interaction	0.838
Interaction \rightarrow Experiential Learning	0.631
Interaction \rightarrow Independence	0.202
Interaction \rightarrow Experiential Learning \rightarrow Independence	0.544

Table 3 shows result of validity and reliability test on all latent variables are valid and reliable results, and the test sample $B = 1000$ bootstrap yield significant results.

Table 3. Inner Test Weight On Independence Through Interaction and Experiential Learning With Bootstrap

Variable	Coefficient Original	T Statistic	T table	Explanation
Knowledge → Interaction	0.161	2.427	1.96	Significant
Judgement → Interaction	0.684	10.617	1.96	Significant
Action → Interaction	0.157	2.110	1.96	Significant
Interaction → experiential learning	0.794	14.189	1.96	Significant
Interaction → Independent	0.202	2.713	1.96	Significant
Experiential learning → Independence	0.567	6.645	1.96	Significant

Phase 2 trials conducted to assess the effectiveness of models. Phase 2 study results with the implementation of nursing used modules of Experiential Learning Care (ELC) in the treatment group and the control group leaflets media. Implementation in order to test models of Nursing in mothers of preterm infants with the approach of Experiential Learning Care (ELC) based Theory of Goal Attainment in order to be ready to care for the baby's own mother after discharge from the hospital. Treatment Experiential Learning Care (ELC) is given to the mother during 2 weeks is calculated from the first day of birth until the age of neonates (28 days). Observations independence was observed in mothers of preterm infants home after discharge from the hospital to the time of the visit no more than 28 days counted from birth. Model application independence in caring mothers of preterm infants through experiential approach based Learning Theory of Goal Attainment done with path analysis between mother knowledge about preterm infants (X1.1), the decision of the mother in the care of preterm infants (X1.2), acts mother (X1. 3), interaction mother (X2), the implementation of experiential Learning Care (Y1) and the ability to self-reliance in caring mothers of preterm infants (Y2). Then obtained the following results as shown in Table 4.

Table 4. Test Results t test Independence Caring mother in Preterm Infants in the treatment group and control group

No	Indicator	Mean±SD Treatment		Mean ±SD Control		t	p	Explanation
		Before	After	Before	After			
1	The ability to know the signs and symptoms of apnea, hypothermia, impaired nutrition and prevent infection	77.49 ± 5.62	86.67 ± 7.03	72.00 ± 10.54	72.50 ± 10.43	3.562	0.003	Significant
2	Ability expected problems that may arise in preterm infants	78.33 ± 8.04	86.67 ± 10.54	68.33 ± 13.49	72.50 ± 6.85	3.562	0.003	Significant
3	The ability to demonstrate how to handle a baby	73.00 ± 6.56	78.33 ± 5.49	65.67 ± 11.00	69.33 ± 8.86	2.730	0.015	Significant
4	The ability to take decisions involvement of health workers	73.33 ± 8.60	85.83 ± 9.66	66.66 ± 13.61	72.50 ± 6.85	2.623	0.017	Significant

Table 4 gives information based on data on the independence of the mother in the care of preterm babies in the mother's ability to know the symptoms and signs of apnea problems, hypothermia, nutritional needs and the risk of infection showed an increase in self-sufficiency before and after Experiential Learning Care (ELC). The above data shows that the average increase in the independence of the mother prior to the ELC compared to independence after the ELC. Increased independence occurred in the treatment group. In the control group there was an increase, but the increase is not as high as had happened in keompok treatment. In the treatment group increase is very significant. This situation shows that the Experiential Learning Care (ELC) can increase the independence of the mother in the care of preterm infants. T-test results in the treatment group and the control group showed that there were significant differences in

maternal autonomy in caring for babies in the treatment group before and after treatment. In the above table shows that on every indicator of independence in the treatment group there are significant differences. In the control group, the independence of each indicator there is no significant difference except the indicators of mother's ability to demonstrate how to care for preterm babies. Research hypothesis is accepted that there is a difference between the independence of the mother in caring for preterm infants using Experiential Learning Care (ELC) with conventional methods. Independence of the mother in the care of preterm infants using Experiential Learning Care (ELC) is increased compared with conventional methods.

Discussion of the results showed that the model of independence is strongly influenced by the interaction between the mother and the nurse further from the interaction of nursing intervention in the form of Experiential Learning Care (ELC). ELC is greater independence through the results rather than through direct interaction to independence. Increased involvement of the mother during nursing process in the hospital became the principal concern in using the approach Experiential Learning Care (ELC). ELC approach very effectively used to increase the independence of the mother in the care of preterm infants after discharge from the hospital.

The initial step achievement of roles as mothers (maternal role attainment) can be done from the beginning through the interaction of the mother and baby immediately after birth. The nurse is as soon as possible after 30 to 60 minutes after birth, involving the mother in caring for her baby. This is because time is a critical and sensitive period for the mother and baby to know each other and is bound together in a relationship of parenting [10]. Furthermore, the mother involved in the provision of measures to prevent apnea, hypothermia, impaired nutrition and prevents infection.

Experiential Learning Care (ELC) is done to emphasize that experience (experience) plays an important role in the learning process and distinguish it from other learning theories such as behaviorism or cognitive learning theory [11]. Stages of experiential learning: 1) Phase practice of concrete (Concrete Experience) 2) Phase Active and Reflective Experience (Reflection Observation). 3) Conceptualization Phase (Abstract Conceptualization). 4) Phase Experimentation Active (Active Experimentation).

Preterm infant care by involving mothers in every step of the process nursing mothers will be able to realize the importance of the role of mothers as primary caregivers who will continue after the return of the baby from the hospital. The learning process in the hospital is to raise awareness of the importance of the role of a mother and enough stock for the mother to be able to provide the best care for preterm babies.

Experience is everything that happens to us throughout our lives [12]. James Neil founded the experience refers to all the events that have been experienced by someone [13]. The opinion supports convey what John Dewey who stated that the experience is always an impact on the future of man, be good or bad. ELC learning process gives the mother an experience that is structured by using modules independence of mothers in caring for preterm infants. Learning activities begins with the introduction of maternal existence of a problem faced by preterm infants so that mothers can be aware of the existence of a baby. Furthermore, the mother is given the opportunity to learn the skills that nurses do. The mother is given the opportunity to think and solve problems at any time if the baby is having problems. And at the final stage mother asked to demonstrate the skills that have been mastered. This process accommodates the transformation of knowledge of nurses to the mother and a process internalization cause high awareness in the mother. This is different from the learning process learning by Doing that only emphasizes the experience of trial and error. ELC learning experience provides meaning for someone to be able to take the essence of the experience itself for the best results in the baby that is to reduce the incidence of morbidity and mortality.

As a form of comparison, treatment with conventional learning model is dominated by the activities of nurses to provide instruction. This clearly would put the mother only as a passive recipient of information. Conventional models do not provide opportunities for women to understand further the importance of independence to care for their babies after discharge from the hospital. Independence of the mother in the care of preterm infants at home, indicated by the return of the baby's weight at birth as after a few days the weight loss due to evaporation or loss of water through the process of insensible water loss (IWL). The success of the independence of the mother is shown also by the absence of either infection in the eye or in the umbilicus [14].

The new finding in this research is the Experiential Learning Approach Care (ELC) more powerful in increasing the independence of mothers from the direct interaction to independence. Experiential Learning Care (ELC) is an operational form of transactions between a mother and a nurse. Transactions between the mother and the nurse were done so that the capital gain real experience in the care of her baby during ELC process takes place. ELC accommodate the exchange of information through learning by doing so inside the mother occurs internalization of information about skills in caring for the baby. The central role of the ELC is a learning process by using experience [11] Mother's experience will strengthen the transformation of knowledge that has been acquired and adequately applied in the treatment of preterm infants at home. Transformation and internalization obtained through Experiential Learning Care (ELC) will increase the

independence of the mother. Independence of the mother in caring for preterm infants using nursing interventions in the form of Experiential Learning Care (ELC) more meaningful improvement when compared to the conventional models of intervention. ELC is a form of direct involvement of mothers during hospitalization. Involvement includes mother mother's presence directly when nurses provide care to infants, mothers observe and explain the action he had done the nurse, the mother demonstrated the skills acquired and can use these skills to make decisions and solve problems. The presence of mothers in the intervention process will trigger a thought process and raises awareness. Awareness will be reflected in the thought process and used as a foothold in the act and acquire new skills to be able to solve the problem. The involvement of the mother can begin immediately after the mother recovers from the time of delivery that can be started after 24 hours post partum until the return of preterm infants from the hospital.

4. CONCLUSION

Based on the results of research and discussion, it can be described conclusion that 1) Independence of the mother in caring for preterm infants using nursing interventions in the form of Experiential Learning Care (ELC) more meaningful improvement when compared to the conventional models of intervention. 2) Model ELC further strengthen the independence of the nurse interaction with the mother in caring for preterm infants.

The application of the model Independence mother in caring for preterm infants using an approach Experiential Learning Care (ELC) based theory of goal attainment can be implemented more optimal with respect to: 1) Factors of nurses and midwives as good facilitators in a mother's active involvement in every element of Experiential Learning Care (ELC) so that mothers of preterm infants can independently take care of her baby after discharge from the hospital. Experiential Learning Care (ELC) will raise awareness of maternal and confidence to participate and be involved in the care of preterm infants so that knowledge, action and interaction of the preterm infant's mother will be able to rise. 2) Factors awareness of mothers as the main actors in the preterm infant care home needs to be further improved by assistance in caring for the baby, the mother is motivated to involve themselves actively in any action treatment in hospital so that the mother can implement home care skills. 3) Factors facilities and hospital policy by creating the conditions nurseries are accommodated through Clinical Practice Guidelines (CPG) and the comfort of the mother so Experiential Learning Care can be done well. 4) Factors other means to optimize the development of the means of learning by designing the room like at home so that the mother does not experience stress and improve their competence to serve as care providers on the baby.

Suggestions can be submitted researchers are 1) The process of nursing education should not be only in the form of activities to improve the quality of science, but must be followed by an increase in mental quality of caring. Thus the professional nurse will be generated and ready to meet the needs of the patient. 2) The next researcher can apply this model of self-reliance in other cases that require emergency treatment in addition to the preterm infant and mother empowerment.

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